6-6-1997

CropWatch No. 97-12, June 6,1997

Lisa Brown Jasa
University of Nebraska-Lincoln, ljasa@unlnotes.unl.edu

CROP WATCH

University of Nebraska Cooperative Extension
Institute of Agriculture and Natural Resources

No. 97-12
June 6, 1997

Cutworm damage in corn

Does replanting require treatment?

This year's cool May weather has prolonged the period that corn is susceptible to seedling insect pests. Cutworm activity in Nebraska is heavier than in the past several years. In some cases, feeding has been extensive enough to require replanting.

Should a producer treat for cutworms when replanting into the same corn field just destroyed by cutworm feeding?

This is a tough call. Depending on which species is present, feeding may be about finished or can continue for some time and do considerable damage. If black cutworms are present, feeding may continue. While the odds are probably in your favor that you won't lose the field twice to cutworms, you may not be able to take that chance this late in the season. You could consider the application as insurance from possibly losing stand.

The most economical treatment for cutworms at replanting would be to band a pyrethroid like Ambush, Asana, Pounce or Warrior at the lowest labelled rates. Control would be good to excellent if moisture conditions are normal. A light rain after application would help.

Cost of material would be about $5 per acre or so. Broadcast would be twice as much. A soil insecticide like Force would be expensive, about $18 an acre on 30-inch rows.

Corn planted into beans or alfalfa is particularly attractive to cutworms and as can be expected, many of the damaged fields in northeast Nebraska are in this category.

In south central Nebraska, cutworms also have been found damaging corn planted into alfalfa. In addition wireworm injury has been found in a variety of corn cropping systems. There are no effective postemergence insecticides for wireworm control.

In the west central district, there also have been reports of cutworm damage, particularly in corn coming out of alfalfa. Most of the cutworms are 0.5 to 0.75 inches long and expected to cause damage for at least another couple of weeks. Generally a 5% stand loss is considered to be the economic threshold.

For more information on cutworm control, see *CropWatch* 97-10; NebGuide G93-1153, *Corn Cutworms;* or North Central Regional RP98, *Corn Pest Management for the Midwest*. For more information on wireworm control, see *CropWatch* 97-2. See page 101 for herbicide options in replant situations, and *CropWatch 97-10* for replanting considerations.

Keith Jarvi, Integrated Pest Management Extension Assistant, Northeast Research and Extension Center
Bob Wright, Extension Entomologist, South Central Research and Extension Center
Jack Campbell, Extension Entomologist, West Central Research and Extension Center

Inside

Precipitation still below normal

Although last weekend's rains across much of the state were beneficial, precipitation totals for the year are well below normal for most of the region. The following station summaries cover precipitation and departure from normal from Jan. 1 through June 2: Omaha: 6.25 (-4.77), Lincoln: 7.30 (-2.99), Norfolk: 7.42 (-2.00), Sioux City: 8.60 (-0.89), North Platte: 4.04 (-3.61), Valentine: 7.31 (+0.51), Goodland, KS: 3.77 (-3.24), Scottsbluff: 11.23 (+4.63).

It appears that there is ample subsoil moisture for crop growth. Two consecutive months of below normal temperatures have slowed growth and moisture requirements. Crop water needs will increase significantly during the next 30

(Continued on page 98)

Reports from the field

Keith Glewen, Extension Educator in Saunders County: Corn stands are fair to good. Due to unseasonably cold temperatures some operators planted shallow hoping for quick emergence. At the same time, arctic winds dried out the soil to the depth of the tillage operation.

In no-till situations, some growers planted too shallow or planted in heavy residue situations that also dried out rather quickly. Subsequently slow germination coupled with the dry surface soil conditions caused poor stands of corn in some fields.

By the time growers began planting soybeans, they took a bit more caution and moved aside some dry soil at planting to find moisture. Light showers during soybean planting also aided in emergence.

Soybean stands, for the most part, look good. Some of the earlier planted beans have heavy bean leaf beetle feeding, although the feeding is not expected to affect yield.

Of greater concern is the lack of precipitation. At the University of Nebraska Agricultural Research and Development Center near Mead, from Sept. 1, 1996 to June 2, 1997 precipitation is 39% of normal. From April 1 to June 2 rainfall is 43% of normal. This supports the fact that millions of dollars of soil-applied herbicides were not adequately incorporated and farmers are having to shift to Plan B of their weed control strategies.

Ralph Anderson, Extension Educator in Buffalo County: We received about 2.8 inches of moisture last week, so everything is much better now. Wheat is heading and most of it is either very good or very poor. Most of the poor has been replanted to other crops.

Alfalfa is a little slow and a little late. Some dryland fields are short. The rain may help that but the first cutting will probably be a little light.

There was some poor emergence of corn and soybeans due to crusting. These fields were scattered and mostly associated with seedbed condition at planting. Herbicide performance was below par this year due to cold, dry surface soil conditions.

Paul Hay, Extension Educator in Gage County: There's been some light bean leaf beetle damage, but treatment hasn't been necessary. Most alflfa has had first cutting. Slow activation of herbicide by delayed rain has lead to some grass escapes. Post treatments will be needed.

(Continued on page 106)

Precipitation

(Continued from page 97)

days. If the below normal precipitation trend continues, subsoil reserves will be rapidly depleted.

Forecasts call for a return to near normal temperatures and precipitation during the next two weeks. Normal highs across the state should be about 85°F with lows near 60°F. Normal precipitation should range from 1.5 inches across western Nebraska to just over 2 inches over eastern Nebraska.

Al Dutcher
State Meteorologist
Agricultural Meteorology

CROP WATCH

Crop Watch is published from March to November by the University of Nebraska Institute of Agriculture and Natural Resources Communications and Information Technology, PO Box 830918, 108 Agricultural Communications Bldg., UNL, Lincoln, NE 68583-0918. To order either a printed or electronic (web) subscription or to change your address, write to *Crop Watch* at the above address or call (402) 472-7981.

Lisa Brown Jasa, Editor

For more information about a particular subject, write the authors at the addresses below:

UNL Department of Entomology
202 Plant Industry Bldg.
Lincoln, NE 68583-0816

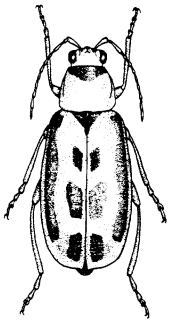
UNL Department of Agronomy
279 Plant Science Bldg.
Lincoln, NE 68583-0918

UNL Department of Plant Pathology
406 Plant Science Bldg.
Lincoln, NE 68583-0722

UNL Department of Agricultural Meteorology
236 L.W. Chase Hall
Lincoln, NE 68583-0728

Bean leaf beetles in soybeans

University changes treatment thresholds



Bean leaf beetles are moving into newly emerging soybeans and will cause farmers concern for the next couple of weeks. After feeding on the soybean seedlings, this "colonizing" group of beetles will lay eggs and die, and the next generation will appear in July. A couple of reports have come in of bean leaf beetles feeding on corn while waiting for the soybeans to emerge.

Bean leaf beetles are yellowish-tan to reddish, usually with four black spots and black borders on the wing covers, and a black triangle behind the head. Occasionally the spots will be missing or faint, but the black triangle will always be present. The beetles are similar in size to a lady beetle.

Beetles move in from alfalfa, other legumes and sheltered areas and feed anywhere on the young soybean plant. The earliest emerging fields will attract the most beetles and will sustain the most feeding. Beetles will tend to remain at higher populations in those fields for the rest of the year. Since they move in from outside the field, field edges will take the brunt of the feeding and look the worst.

Damage is caused by holes chewed on the unifoliolate and trifoliolate leaves, and scarring of the cotyledons. Because the plants are small, the defoliation and the beetles are easily seen. However, recent research by UNL Entomology Technologist Tom Hunt indicates that soybeans are capable of withstanding some very severe damage early in the season. The following economic threshold tables have been developed from that research. By matching the anticipated value of the crop in bushels per acre and the costs of control, the number of beetles per plant needed to justify treatment is calculated.

Table 1. VC Stage economic thresholds (only unifoliolate leaves unrolled)

	Beetles per plant			
	Control Cost, $/acre			
Crop value, $/bu	*6.00*	*8.00*	*10.00*	*12.00*
5.00	3.2	4.3	5.4	6.2
6.00	2.7	3.6	4.5	5.2
7.00	2.3	3.1	3.8	4.4
8.00	2.0	2.6	3.3	4.0

Table 2. V1 Stage economic thresholds (first trifoliolate leaves unrolled)

	Beetles per plant			
	Control Cost, $/acre			
Crop value, $/bu	*6.00*	*8.00*	*10.00*	*12.00*
5.00	4.4	5.8	7.3	8.7
6.00	3.6	4.8	6.1	7.3
7.00	3.1	4.2	5.2	6.2
8.00	2.7	3.6	4.5	5.4

Remember, the number of beetles per plant must be averaged over the entire field to get the losses described, and that early season beetle feeding is short-lived. Damage will be greater near field edges. As you can see, the soybean plant is very tolerant to feeding damage early in the year. Our recommendation is to use the tables and treat only if defoliation has reached 50% or more.

About a dozen different materials are registered to control bean leaf beetles on soybeans. The most readily available are Lorsban 4E at 0.5 lb active ingredient (AI) per acre, Cygon 400 at 0.5 lb AI/acre, Asana at .025 lb AI/acre, Pounce at .05 lb AI/acre, Ambush at .05 lb AI/acre, Warrior at .015 AI/acre, Orthene at 0.5 lb AI/acre, Larvin at 0.45 lb AI/acre and Sevin at 0.5 lb AI/acre. For a full listing of materials and information on soybean feeding insects, stop by your local County Extension office and pick up EC-1511, *Insect Management Guide for Alfalfa, Soybeans, Wheat, Range, and Pasture.*

Keith Jarvi, Integrated Pest Management Extension Assistant
Northeast Research and Extension Center

Options for postemergence weed control

... in soybeans

Success with postemergence herbicides hinges on timing of the application. Timing depends more on weed growth stage than on crop stage — small weeds are more readily controlled than large ones. Apply herbicides when most susceptible weeds are less than 4 inches tall. Nitrogen solutions (28-0-0) will increase the activity of many herbicides against velvetleaf, but weed size limitations remain. Taller weeds are defoliated, but they often recover.

The spectrum of weeds controlled varies with herbicide. Basagran is effective against cocklebur, smartweed, sunflower, and velvetleaf. Blazer, Cobra, Flexstar, Reflex, Status and Stellar control black nightshade, pigweed, and smartweed. A combination of Basagran and Blazer is often used for broader spectrum control. Galaxy is a premix combination of Basagran and Blazer. Classic is effective against cocklebur, smartweed, sunflower, and provides pigweed suppression. Pinnacle's weed spectrum is similar to Classic's except it is more effective against pigweed and has less soil persistence than Classic. Classic and Pinnacle also control velvetleaf when a nitrogen solution is used as an additive. Concert, Sychrony, and Reliance are premixes containing the active ingredients of Classic and Pinnacle. Resource is highly effective on velvetleaf.

Scepter controls cocklebur, pigweed, and sunflower. Pursuit is effective against most annual broadleaf weeds and many grasses, especially shattercane. The weed spectrum of Cobra, Flexstar, and Reflex is similar to Blazer, with one difference being greater effectiveness against velvetleaf. Classic, Pursuit, Reflex and Scepter have crop rotation restrictions — consult the label. Raptor has just been labeled for postemergence use in soybeans. Its activity is similar to Pursuit with fewer rotational crop restrictions.

Soybean injury is not a concern with Assure, Fusilade, Fusion, Poast Plus, Prestige, and Select. Treat annual grasses before they tiller. Tillering often occurs before grasses are 4 inches tall. Grasses treated after tillering often recover and regrow from the crown. Combining broadleaf herbicides with these materials often results in reduced grass control, particularly yellow foxtail.

Volunteer corn and shattercane are very susceptible to these herbicides. Good control can be achieved in plants up to 18 inches tall.

Avoiding herbicide drift

Applying herbicides when it is too windy results in drift that can injure sensitive plants — crops, trees and ornamentals. Trees and ornamentals are now in full leaf and very sensitive to herbicide drift. Be careful with herbicide applications. Leave an untreated buffer or wait until the wind goes down or blows away from sensitive plants.

... in sorghum

Crop growth stage restrictions are an important consideration when choosing a postemergence herbicide for sorghum. Gauge treatments on crop growth stage in most of the field. Early applications may allow lower rates, better coverage, and more effective weed control. As with most approaches, small weeds are more easily controlled than large weeds.

Atrazine 90 DF at 1.3 pounds per acre plus oil concentrate can be used to control broadleaf weeds up to 4 inches tall after the sorghum has reached the three-leaf stage. Do not use atrazine if the sorghum is more than 12 inches tall.

Banvel applications at 0.5 pints per acre alone or with 0.5 to 1.25 pounds active ingredient of atrazine should also be delayed until the sorghum is in the third-leaf stage. Banvel can be applied to sorghum up to 15 inches tall. Use drop nozzles if the sorghum is over 8 inches tall.

Buctril plus Atrazine can be applied alone or with Banvel or 2,4-D. The maximum sorghum growth stage for all Buctril plus atrazine treatments is 12 inches. Buctril plus atrazine at the rate of 1.5 to 2 pints per acre can be applied after sorghum emergence. When using the 3-pint rate, delay applications until the sorghum reaches the four-leaf stage. With 2,4-D or Banvel tank mixes, use drop nozzles if the crop is taller than 8 inches. Do not apply in the boot stage.

Laddok at 2.4 pints per acre plus either oil concentrate or UAN effectively controls 2-4 inch broadleaf weeds and can be applied until sorghum is 12 inches tall. A 3.5 pint rate will control taller weeds and help suppress yellow nutsedge and field bindweed.

Peak was recently registered and can be applied at 0.75 to 1.0 ounce per acre over the top of

(Continued on page 100)

Nebraska Weed Tour

The itinerary has been set for the 1997 Nebraska Weed Tour. The tour will begin in westen Nebraska.

Wednesday, June 18

2:00 p.m. (MDT)
Sidney — High Plains Agricultural Laboratory

Thursday, June 19

8:30 a.m. (MDT)
Scottsbluff — Panhandle Research and Extension Center

Tuesday, June 24

8:30 a.m. (CDT)
Lincoln — Havelock Research Farm

Wednesday, June 25

8:30 a.m. (CDT)
Clay Center — South Central Research and Extension Center

2:00 p.m. (CDT)
MESA Site near Shelton — Site Specific Weed Management

Research

Thursday, June 26
8:30 a.m. (CDT)
North Platte — West Central Research and Extension Center

Use care with injured crops, postemergence herbicides

As we enter Nebraska's summer storm period, producers should remember that they run a greater than normal risk of crop injury when applying postemergence herbicides to crops damaged by wind, hail, and blowing sand and soil. The bruised and damaged tissue permits increased herbicide uptake. Waiting several days for the crop to recover from storm damage reduces the risk of herbicide injury; however, don't wait too long because the weeds will be growing at the same time. Herbicides posing the greatest risk to corn and sorghum include 2,4-D, Banvel, Bladex, and atrazine. Atrazine can be used postemergence on corn that is not severely damaged, but not on sorghum. Basagran and Laddok should be fairly safe on corn and sorghum. Buctril and Buctril-Atrazine do not pose an unusual risk on storm damaged crops.

Storm-damaged soybeans should not be treated with Basagran, Blazer, Cobra, Classic, Galaxy, Pinnacle or Pursuit or Raptor until they recover. Assure, Fusilade, Fusion, and Poast Plus and select are relatively safe.

Alex Martin
Extension Weeds Specialist
John McNamara
Extension Assistant
Weed Science

Postemergence control *(Continued from page 99)*

sorghum 5-30 inches tall for the control of many broadleaf weeds. Crop oil concentrate, or non-ionic surfactant should be used as a spray additive. Nitrogen solution (28-0-0) may be added with non-ionic surfactant.

Many broadleaf weeds can be controlled by applying Permit at two-thirds ounce per acre over the top of sorghum from the two-leaf stage through layby. Use crop oil concentrate or surfactant as a spray additive. Nitrogen solution (28-0-0) may be added to improve control of certain weeds.

Shotgun, a prepacked combination of 2,4-D and atrazine, can be used for broadleaf weed control in sorghum from the spike to five-leaf stage. Use directed spray on sorghum that is 8-12" tall.

2,4-D amine at 1 pint per acre or 2,4-D ester at 0.5 to 1.25 pints per acre can be used on 6- to 15-inch sorghum. Use the 1.25 pints per acre rate of 2,4-D ester for perennial broadleaf weeds. Use drop nozzles if the sorghum is over 8 inches.

Additives for soybean, sorghum

Spray additives are required with most postemergence herbicides. Additives include crop oil concentrate, nonionic surfactants, fertilizer solutions, and ammonium sulfate. Each herbicide has specific additive requirements — consult the label for details. With certain additives, less herbicide may be required. Nitrogen solution (28-0-0) improves the activity of most broadleaf herbicides against velvetleaf. The *1997 Herbicide Use Guide* lists suggested additives for each herbicide.

Alex Martin
Extension Weeds Specialist
John McNamara
Extension Assistant
Weed Science

Consider previous herbicides when replanting limits options

Delayed planting due to wet weather may cause farmers to change plans and plant a different crop even though a certain herbicide had already been applied. In addition crop damage from flooding, hail or insects may cause farmers to consider planting a crop other than corn. Planting options vary according to what herbicides were applied previously.

The following table lists planting options based on our judgment for various herbicides with the time delay required between application and planting. These estimates can be influenced by several factors including application rate, soil organic matter content, and pH.

One method of planting into soil containing damaging herbicide residues is to set furrow openers on the planter to remove the surface soil. A heavy rain after planting would negate this technique and may result in the crop being "silted under." Use herbicides only "as needed" on the replant crop.

Alex Martin, Extension Weeds Specialist
John McNamara, Extension Assistant, Weed Science

Replant options

Herbicide	*Replant crops*	*Time delay*
Accent	Corn	None
Atrazine	Corn, Sorghum	None
Authority Broadleaf	Soybeans	None
Banvel	Corn, Sorghum	15-30 days
Basis Gold	Corn	None
Canopy	Soybeans	None
Canopy XL	Soybeans	None
Clarity	(depending on rate)	
Beacon	Corn	None
Bicep/Bicep Lite	Corn, Sorghum (safened seed)	None
Bladex	Corn	None
	Sorghum, Soybeans	15-30 days (depending on rate)
Broadstrike + Dual	Corn, soybeans	None
Broadstrike + Treflan	Soybeans	None
Buctril/Atrazine	Corn, sorghum	None
Bullet	Corn, sorghum (safened seed)	None
Cycle	Corn	None
	Sorghum (safened seed)	0-15 days
Dual/Dual II	Corn, Sorghum (safened seed)	None
	Soybeans	None
DoublePlay	Corn	None
	Sorghum	30 days
Eradicane	Corn	None
	Sorghum	30 days
	Soybeans	10-15 days
Exceed	Corn	one
Extrazine II	Corn	None
	Sorghum	15-30 days (depending on rate)

(Continued on page 102)

Wheat mosaic strikes hailed western wheat

Wheat streak mosaic was the predominant disease found during a survey of wheat in the Nebraska Panhandle and eastern Wyoming.

Incidence and severity of cephalosporium stripe was moderate in those fields where the disease was present. Crown and root rot was noted in several fields but was not severe.

Wheat streak mosaic was widespread in the southern Panhandle and eastern Wyoming in those areas that were hailed last year. The familiar pattern of hail-early volunteer wheat-wheat streak mosaic applied in these situations. Failure to control volunteer wheat in a timely and effectively manner resulted in curl mites and virus being carried over to the fall planted crop.

A survey of wheat in southeast Nebraska on May 30 showed that leaf rust was present in trace severity on the lower leaves. In general flag leaves were free of infection. Most fields were flowering so leaf rust should not be a major factor this year. Rust will continue to develop over the next six weeks, but because it is late and because the wheat is headed it is very unlikely that yields will be affected. Other diseases noted during the survey were barley yellow dwarf and tan spot. The incidences and severities of both were low.

John E. Watkins
Extension Plant Pathologist

Just getting on the Web?

A wealth of Extension crops information is available, including an expanded version of *CropWatch.*

Check corn seedlings for needle nematodes

Corn growers, extension educators, and other crop observers should be watching for damage to young corn seedlings from needle nematodes (*Longidorus* spp.). These nematodes can be devastating to young corn plants, particularly on sandy sites, shortly after seedling emergence. Young plants that are struggling due to cool, wet weather are especially prone to attack, and it doesn't take many nematodes feeding on a sparse root system to cause additional problems. Injury thresholds can be as low as five nematodes per 100 cc of soil.

Symptoms are most severe during late May and June. Field symptoms to look for include spotty stands of stunted, nutrient-deficient and chlorotic plants. Root pruning is common, resulting in short, stubby lateral feeder roots, often with slight swellings at the root tips.

For a nematode assay, send suspect corn seedlings, together with intact roots and adjacent soil, to the Plant and Pest Diagnostic Clinic. The address is 448 Plant Sciences Hall, Department of Plant Pathology, University of Nebraska, Lincoln, NE 68583-0722 (Attn: Dr. T. Powers). A fee of $20 is charged for the nematode assay.

David S. Wysong
Extension Plant Pathologist

Dairy outlook

Nebraska's milk producers face a bright future across the country and the globe, dairy industry experts say. Nebraska is one of 14 U.S. states predicted to increase milk production by 25% in the next five years.

"I think the industry is looking very favorably at Nebraska as far as a place to increase milk production. Dairies are looking for places to expand and Nebraska is a favored site for relocation.

Nebraska's existing dairy operations are part of the expansion trend. Many are increasing herd size; others are specializing. Informal surveys show that 25% of existing dairies plan expansion.

Eight dairies recently moved into the state, and five more will open by December. The operations are coming from the Netherlands, Arizona, Texas, Colorado, Virginia and Washington.

Replant options *(Continued from page 101)*

Herbicide	*Replant crops*	*Time delay*
Frontier	Corn, Soybeans	None
	Sorghum (safened seed)	None
Guardsman	Corn, Sorghum (safened seed)	None
Harness Plus	Corn, Soybeans,	
	Sorghum (safened seed)	None
Harness Xtra	Corn, Sorghum (safened seed)	None
HornetCorn	None	
Laddok	Corn, Sorghum	None
Lasso	Corn, Sorghum (safened seed)	None
	Soybeans	None
Lariat	Corn, Sorghum (safened seed)	None
Liberty	Corn, Sorghum, Soybeans	None
Marksman	Corn	None
	Sorghum	30 days
Micro-Tech	Corn, soybeans	None
	Sorghum (safened seed)	None
Peak	Corn, sorghum	None
Princep	Corn only	None
Prowl	Soybeans, sunflowers	None
Pursuit	Corn (IR, IT), soybeans	None
Pursuit Plus	Soybeans	None
2,4-D	Corn	0-7 dys
	Sorghum	7-10 days
	Soybeans	7-30 days
Ramrod	Corn, sorghum, soybeans	None
Ramrod/Atrazine	Corn, sorghum	
	None	
Scepter	Corn (IMI), soybeans	
	None	
Scorpion III	Corn	None
Steel	Soybeans	None
Sutan	Corn	None
	Sorghum	30 days
Soybeans	10-15 days	
Surpass	Corn, soybeans	None
	Sorghum (safened seed)	None
Surpass 100	Corn, sorghum (safened seed)	None
Sutazine	Corn	None
	Sorghum	30 days
Topnotch	Corn, soybeans	None
	Sorghum (safened seed)	None
Tough	Corn, soybeans, sorghum	None
Treflan	Soybeans	None

Brief

Ag Women Conference

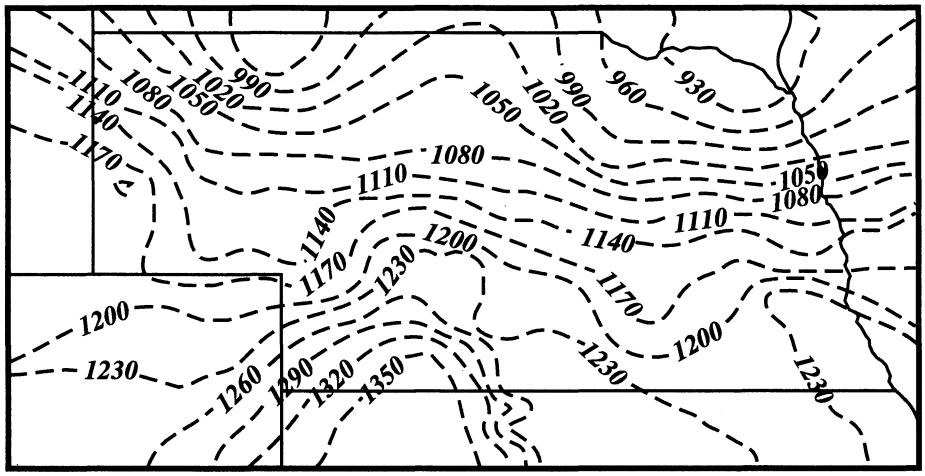
The 13th annual "Women in Agriculture: The Critical Difference" conference returns here Sept. 11-12.

Participants may choose from over a dozen new and traditional workshops, including basic marketing, income tax management, estate/retirement planning, generation farming, maintaining spouse relationships, global agriculture, resource management and property tax issues.

Panel discussions about the public's image of agriculture and how women have created value-added products from the farm business also are included, said Deb Rood, program coordinator at the University of Nebraska-Lincoln Institute of Agriculture and Natural Resources.

Keynote speaker Mary Kay Mueller of Omaha will focus on an upbeat way for participants to take better care of themselves.

Registration is $55 until Sept. 5 and $60 afterward. For more information, call (800)535-3456. This year the conference will be at the Kearney Ramada Inn. Reserve rooms by calling (800)248-4460.



Common stalk borer

Growing degree day accumulations on a 41 F base for stalk borers. Begin scouting at 1,300-1,400 accumulateed GDDs.

Weather update

	Precipitation (%=percent of average) 5/12-5/26				GDD accumulation Med. maturity wheat ending on 6/1			Corn ending 6/1/97				Soybeans ending on 6/1/97			
	Act.	%	Act.	%	Act	Norm	%+/-	Emer	Act	Norm	%+/-	Emer	Act	Norm	%+/-
Ainsworth	1.42	175	14.00	106	712	900	-10	5/19	113	173	-2				
Alliance	0.08	11	7.18	75	777	845	-4	5/18	126	167	-2				
Beatrice	0.42	45	10.60	59	1005	1201	-10	5/14	206	286	-3	5/24	64	151	-3
								5/21	109	195	-3				
Concord	2.06	214	13.63	81	701	979	-15	5/21	92	166					
Elgin	1.02	115	10.33	67	715	970	-14	5/21	88	162	-3				
Holdrege	0.94	101	11.84	85	993	1094	-5	5/13	197	256	-2	5/22	87	152	-2
								5/18	122	200	-3				
McCook	0.72	84	9.30	76	1070	1045	+1	5/15	194	222	-1	5/25	67	106	-1
								5/19	134	178-2					
Mead	0.24	25	7.12	39	916	1131	-11	5/17	167	240	-3				
								5/22	101	174	-3				
North Platte	0.51	63	11.49	103	993	1005	-1	5/15	181	217	-1	5/25	65	103	-1
								5/19	124	173	-2				
Ord	0.63	68	10.42	67	850	1045	-11	5/15	171	236	-2	5/20	105	178	-3
								5/22	78	154	-3				
Red Cloud	1.17	125	10.56	73	1009	1099	-5	5/13	215	258	-1	5/22	97	153	-2
								5/18	138	201	-2				
Scottsbluff	0.55	82	6.98	75	878	855	+1	5/18	149	170	-1				
Sidney	4.41	615	12.57	128	903	894	+1	5/18	123	169	-2				

Controlling weeds in proso millet

Weeds can be a serious problem in proso millet, and herbicide options are limited. Atrazine was a standard preemergence treatment in proso millet until the manufacturer canceled the label in 1990. Currently, only 2,4-D amine (Formula 40®), Banvel, and Peak are labeled for use in proso millet. Banvel has a 24c (Special Local Need) registration in Nebraska, Colorado, South Dakota, and Wyoming. This registration was reauthorized last year in Nebraska and will be good for another four years.

Most small broadleaf weeds can be controlled with 16 ounces/acre of 2,4-D amine (4EC) applied when proso plants have two to five leaves. If more difficult to control weeds such as kochia, knotweed, or wild buckwheat are present, a combination of 3 ounces/acre of Banvel plus 12 ounces/acre of 2,4-D amine (4EC) may be desirable. The risk of crop injury increases slightly when using Banvel. Do not use Banvel when susceptible crops are within 1/2 mile of the application site.

Peak is a sulfonylurea herbicide that received federal labeling last year for use in grain sorghum, wheat, barley, rye, oats, triticale, and proso millet. Peak will provide good early postemergence control of many broadleaf weeds, particularly pigweed, with the added benefit of supplying some residual control of late emerging broadleaf weeds. Apply Peak at the rate of 0.25 ounce/acre. Add a nonionic surfactant at 1-2 quarts per 100 gallons of spray solution. Due to concerns related to the development of weed resistance to the sulfonylurea class of herbicides, Peak should always be tankmixed with 12 ounces/acre of 2,4-D amine (4EC). Weed resistance management also should include avoiding the use of Peak in proso millet if a sulfonylurea herbicide, such as Ally, Amber, or Finesse, was used in the previous year's crop.

Drew Lyon, Extension Dryland Crops Specialist, Panhandle Research and Extension Center

Adjust strategy for situation

Weed control in reduced till sunflowers

Controlling weeds in reduced-till sunflower production may require modifying application strategies since most soil-applied herbicides labeled for use in sunflowers require tillage.

Prowl has a supplemental no-till label for use in Colorado, Kansas, Minnesota, Nebraska, and the Dakotas. Prowl may be applied in 20 to 60 gallons of water per acre up to 30 days before planting or immediately after planting. Higher rates of Prowl are needed in no-till compared to conventionally tilled sunflower. The higher rates compensate for reduced control with preemergence treatments and for greater residue absorption.

Prowl activity is dependent on receiving adequate rainfall within seven days of application. The minimum amount of rainfall required for activation depends on soil type, and ranges from about 0.3 inch on sandy loams to 0.75 inch on clay loams. If adequate rainfall is not received in a timely manner, the product will break down by photodecomposition and volatilization, and a postemergence herbicide may be needed. Prowl does not control emerged weeds, so a burndown herbicide is required to control emerged weeds.

Roundup Ultra and Gramoxone Extra may be used before planting or crop emergence to control emerged grasses and broadleaf weeds. Monsanto has a supplemental label for Roundup Ultra RT at 32 oz/A plus Prowl at 2-3 pts/A, applied in 10 gallons of water carrier for preplant and preemergence application in sunflower. Poast is labeled for postemergence control of grass.

For weed control in minimum-tillage systems consider Treflan or Sonalan granules (10G). Research in North Dakota has shown that granular formulations are more effective than liquid formulations when minimum tillage is used. Weeds are controlled when granules are incorporated with two sweep-blade operations, and surface residue cover is maintained above 50%.

The best success with this system occurs when blade width is 32 inches or less, tillage depth is two inches, implement speed ranges between 4 and 5 mph, and the two tillage operations occur in different directions. Granules are usually applied three to five weeks before planting to allow rainfall and the second tillage to improve incorporation. Following these guidelines results in granules being incorporated in the top 1-2 inches of soil, where most weeds germinate. Effective weed control can be achieved with rates of 8 to 10 lb/A Treflan TR10 or Sonalan 10G.

A rotary hoe may be used to control small emerging weeds in sunflower. The rotary hoe should be operated at a speed of about 10 mph for best weed control. A row-crop cultivator designed for high residue conditions may be used during much of the season, but cultivation should stay outside the leaf spread of the plants.

Drew Lyon, Extension Dryland Crops Specialist
Gail Wicks, Extension Weeds Specialist
and Robert Klein, Extension Cropping Systems Specialist

Diagnostic Clinic update

Plant virus questions common this week

There have been calls and samples related to virus diseases from all areas of the state this week. Wheat Streak Mosaic Virus (WSMV) has been detected in samples from Perkins and other western counties and in research plots near Mead. Colorado is reporting some fields with severe cases of the disease.

High Plains Virus has been detected in wheat from western counties and sometimes has been found in combination with Wheat Streak Mosaic Virus. Both diseases are known to be transmitted by the wheat curl mite. Weed control and use of proper planting dates are necessary to control wheat streak mosaic virus. With the wheat curl mite being a vector for both, it is recommended that these important control practices be used throughly.

A few corn samples from last week displayed purpling of the leaf tissue due to cold temperatures. With the warm-up this week these symptoms will fade.

Some urban samples have included roses with rose mosaic virus and another with powdery mildew. There were two samples of cool season Pythium blight on bentgrass greens.

Samples of peach were diagnosed with peach leaf curl. With this disease the leaves of the peach tree become extremely distorted and turn a yellow and red color. This disease can only be controlled with dormant sprays.

If you suspect your peach has this disease, stop by your local Extension office and pick up a copy of NebGuide G91-1011, *Peach Leaf Curl and Related Diseases*, and follow the treatment schedule for next year. There is nothing that can be done to control it for this season.

Diane Merrell, Extension Assistant and Diagnostician Plant Plathology

Field reports *(Continued from page 98)*

John Lambert, Extension Educator in Keith-Arthur counties: We just received another 1" of rain which is helping with the wheat. Wheat is short but heading out and the last two rains should help carry it through. Corn emergence was good, but with very few growing degree days, growth has been limited. Some haying is just beginning on the alfalfa.

Ray Weed, Extension Educator in Kimball-Banner counties: Kimball County was hit by severe flooding, hail, and winds May 21-25. We estimate that 3,000 acres of corn had losses of 20-100%; 2,000 acres was destroyed by hail, and an additional 3,000 acres received 40-70% damage. About 500 acres of sugar beets suffered 50-80% yield loss; and 500 acres of alfalfa had 50% yield loss.

Noel Mues, Extension Educator in Furnas County: Relief from the drought finally arrived in the form of much needed rains in late May. Amounts varied from 1 to 3 inches. Most of the spring planting went according to schedule. Winter wheat, alfalfa, and pastures improved considerably with the timely rains.

Tony Hindman, Extension Assistant, Sheridan County: We have received many reports of alfalfa weevils in the last week or so. Extent of the damage remains ia unknown, but with the alfalfa crop developing later than usual this year due to the cool, damp weather, producers are looking toward chemical control rather than an early harvest.